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METHODS OF MAKING SANITATION RATINGS OF MILKSHEDS. REVISED

National Center for Urban and Industrial Health
Cincinnati, Ohio

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1966 EDITION

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Public Health Service

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U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Bureau of Disease Prevention and Environmental Control
National Center for Urban and Industrial Health
Cincinnati, Ohio

Other related Public Health Service publications of interest are:

Public Health Service Publication No. 229, *Grade "A" Pasteurized Milk Ordinance—1965 Recommendations of the United States Public Health Service*, United States Government Printing Office*

"Grade A Dry Milk Products—A Recommended Sanitation Ordinance and Code for Dry Milk Products Used in Grade A Pasteurized Milk Products," (Supplement 1 to the Milk Ordinance and Code).*

Public Health Service Publication No. 1046, *Procedures Governing the Cooperative State-Public Health Service Program for Certification of Interstate Milk Shippers—1965 Revision*, United States Government Printing Office*

Public Health Service Publication No. 999-FP-3, *Evaluation of Milk Laboratories—Recommended by the United States Public Health Service**

Public Health Service Publication No. 999-FP-5, *Milk Laboratories Approved by Federal and State Agencies**

Sanitation Compliance and Enforcement Ratings of Interstate Milk Shippers (a quarterly publication)*

*Single copies of these publications are available from the National Center for Urban and Industrial Health, Public Health Service, U.S. Department of Health, Education, and Welfare, Cincinnati, Ohio.

Public Health Service Publication No. 678
Revised October 1966

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In the development of this revision, advisory assistance was obtained from many State milk sanitation authorities and from the field. Space does not permit acknowledgment by name of all individuals who submitted comments or participated in the field trials of the revised methods.

PREFACE

No matter how comprehensive milk sanitation regulations may be, they afford protection to the consumer only to the extent to which their provisions are followed in the production, processing, and distribution of milk and milk products.

To measure objectively the extent to which communities adopting the Milk Ordinances recommended by the United States Public Health Service were enforcing its provisions, the Service developed a method for making sanitation ratings of milksheds in 1938. Today all State milk control agencies utilize this rating method to evaluate periodically the status of State, local, and individual milk sanitation control programs and the progress being made in improving the sanitary quality of market milk supplies.

The results of evaluations made by this rating method have stimulated and encouraged milk control authorities toward greater effort and have enabled the dairy industry to carry on more effective campaigns for increased consumption by focusing attention on the desirability of the sanitary quality of milk and milk products. Such evaluations have also provided States and communities and their officials with a basis for judging whether they have been receiving a proper return for their milk sanitation appropriations, and whether such appropriations are adequate.

Among other advantages, the rating method has enabled State and local agencies to obtain authoritative information on the sanitary quality of milk imported from other jurisdictions, and thus has facilitated the movement of Grade A fluid milk and milk products of high sanitary quality in both intrastate and interstate commerce. An increasing number of States and communities are accepting milk from beyond their jurisdiction without making inspections at the source when such milk has been awarded a milk sanitation compliance and enforcement rating equal to, or higher than, that of the local supply, when based on the current edition of the *Grade "A" Pasteurized Milk Ordinance—1965 Recommendations of the United States Public Health Service.* To facilitate the interstate acceptance of milk on a basis of sanitation compliance and enforcement ratings, the Public Health Service,

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at the request of the Association of State and Territorial Health Officers and the National Conference on Interstate Milk Shipments, cooperates with the States in a voluntary program for the certification of interstate milk shippers.[1] Lists of interstate milk shippers, together with the rating of their supplies, as certified by the States and validated by the Public Health Service, are published quarterly by the Service for use by control authorities of milk importing jurisdictions.[2]

The procedures described in this publication are a revision of the original rating method developed by Frank, Fuchs, and Dashiell (Reprint No. 1970, Public Health Reports, Vol. 53, (32) :1386-99, August 12, 1938), and subsequently revised as Public Health Service Publication No. 678, retaining those features that have contributed to its wide use. This current revision is necessary in order to adjust the rating method to the provisions of the *Grade "A" Pasteurized Milk Ordinance—1965 Recommendations of the United States Public Health Service*, and provide procedures more adaptable to the rating of interstate supplies of fluid milk and milk products.

Separate procedures are given for making computations for (a) entire community milk supplies or (b) for individual dairy farm milksheds, receiving or transfer stations, or milk processors who ship their products, either interstate or intrastate into other milk control jurisdictions. Procedures for (a) above are given under Part 1, The Public Health Service Rating Method for Community Milk Supplies, and the procedures for (b) above under Part II, The Public Health Service Rating Method for Individual Milk Supplies.

Since the 1965 edition of the *Grade "A" Pasteurized Milk Ordinance* is a compulsory pasteurization ordinance, methods for computing a sanitation compliance rating for retail raw milk are not included.

[1] Procedures Governing the Cooperative State-Public Health Service Program for Certification of Interstate Milk Shippers.
[2] Sanitation Compliance and Enforcement Ratings of Interstate Milk Shippers.

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METHODS OF MAKING SANITATION RATINGS OF MILKSHEDS

PART 1. THE PUBLIC HEALTH SERVICE RATING METHOD FOR COMMUNITY MILK SUPPLIES

The Public Health Service rating method for evaluating the sanitary quality of milk measures the extent to which a milk supply complies with the standards contained in the *Grade "A" Pasteurized Milk Ordinance* recommended by the Public Health Service.[1] These nationally recognized standards—rather than local requirements—are used as a yardstick in order that ratings of communities or individual milksheds and processing plants may be comparable to each other, both intrastate and interstate. Ratings are expressed in terms of percentage compliance. For example, if all milk plants and their dairy farms which supply a given community or area with pasteurized milk, comply with all of the requirements of the *Grade "A" Pasteurized Milk Ordinance*, the sanitation compliance rating of the pasteurized milk supply would be 100 percent; whereas, if some of the plants or some of their dairy farms fail to satisfy one or more of these requirements, the pasteurized milk rating would be reduced in proportion to the amount of milk and milk products involved in the violation and to the relative public health significance of the violated items. Procedures for collection of data, computation of sanitation compliance ratings for raw milk for pasteurization and the pasteurized milk supply, and computation of the enforcement rating of the milk control authority responsible for administering milk sanitation regulations are described in the following sections.

Section I. Collection of Data

Data from which the ratings are determined are obtained by State Milk Sanitation Rating Officers, who are certified by the Public Health Service, from the records on file by the milk control authority, and from an evaluation of sanitary practices and facilities at dairy farms, milk plants, and milk transfer and receiving

[1] The current edition of this publication is the *Grade "A" Pasteurized Milk Ordinance—1965 Recommendations of the United States Public Health Service*, PHS Publication No. 229.

stations. It is not necessary, except on very small milksheds, to inspect all plants and dairy farms, since a sufficiently accurate determination of the percentage compliance with sanitation requirements can be determined by surveying a statistically representative random selected number of dairy farms, milk plants, and their receiving and transfer stations.

A. Number of Dairy Farms and Milk Plants To Be Surveyed

The minimum number of dairy farms and milk plants to be included in the survey depends upon the number of each in the milkshed and the accuracy desired. To obtain an accuracy such that the probable error in the individual percentages of compliance with the various items of sanitation will be less than 5 percent, the minimum number of dairy farms or milk plants, selected at random for inspection during the survey, shall be taken from the following table:

TABLE 1

Minimum number of dairy farms, receiving stations, milk plants or inspection areas to be selected at random for inclusion in a survey

Number in milkshed	*Number to be inspected*	*Number in milkshed*	*Number to be inspected*
1 to 24	all	148 to 167	36
25 to 54	25	168 to 191	37
55 to 59	26	192 to 222	38
60 to 64	27	223 to 262	39
65 to 71	28	263 to 316	40
72 to 78	29	317 to 394	41
79 to 86	30	395 to 514	42
87 to 94	31	515 to 725	43
95 to 105	32	726 to 1,192	44
106 to 116	33	1,193 to 5,000	50
117 to 130	34	5,001 to 10,000	100
131 to 147	35	10,001 and over	200

The preceding table is used to determine separately the number of dairy farms, receiving stations, milk plants, and, if applicable, the number of inspection areas to be included in the survey. The probable error is not applicable to small samples. Therefore, if the total number of any of these groups is 25 or less, the entire number must be inspected. The number of milk transfer and/or receiving stations to be inspected is not necessarily required to be determined from the table, since the stations to be included in the survey may depend upon the milk plants selected, as hereinafter explained.

B. Random Selection of Dairy Farms and Milk Plants To Be Surveyed

The individual dairy farms and milk plants included in the survey must be representative to reflect conditions throughout the milkshed. Therefore, it is important that the selection method exclude elements of preselection and provide a truly random sample. Random selections, once made, should be deviated from only in cases of emergencies. Replacements, where necessary, should also be selected at random. Whenever possible, random selections or announcements of such selections for only one day's work at a time should be made. Methods which are satisfactory for the random selection of either dairy farms or milk plants include the following:

1. The name of each dairy farm or milk plant in the milkshed, as the case may be, is written on a small card, only one name being placed on each card. These cards are then thoroughly shuffled and the number of dairy farms, or milk plants, to be included in the survey, as determined from Table 1, is selected.

2. The selection of dairy farms or of milk plants, as the case may be, is made at intervals from a complete card index, ledger record, or other list. When this method is used, the sequence interval chosen must be such that all the card index, ledger record, or other list is subject to the sampling method. The sequence interval may be determined by dividing the total number of dairy farms, or milk plants, by the number needed for the survey. For example: If there were 293 dairy farms in the milkshed, table 1 indicates that 40 will be included in the survey, and the sequence interval in this case would be every seventh dairy. The first dairy farm in the sequence is picked at random from the complete index or list in order that chance alone determines the selection of individual names.

In milksheds which are divided into several inspection areas or districts under one jurisdiction, the total number of dairy farms required for the survey may be prorated among these areas in approximately the same proportion that the size of each bears to the total number of dairies in the milkshed. If this is done the dairy farms in each inspection area are selected at random by one of the methods previously described.

In very large milksheds, where the number of inspection areas exceeds 25, it may be impracticable to cover all areas in the survey. In such cases, the minimum number of areas from which dairy farms are to be selected is determined in accordance with table 1. If this procedure is followed, approximately the same

number of farms are inspected in each area, and both areas and dairy farms from within areas are selected at random by one of the methods mentioned above.

Milk receiving and transfer stations are considered as an integral part of each milk plant to which milk is shipped. Therefore, all such stations supplying the plants selected for survey must also be included. However, only those receiving and transfer stations under the supervision of the milk control authority need be inspected, since consideration of the sanitation compliance status of receiving and transfer stations located beyond the limits of routine inspection is provided for in Section 2D, page 9.

C. Recording of Inspection Data

During a survey, inspection data is recorded on PHS 1783, Dairy Farm Inspection Report, and PHS 723-1, Milk Plant Inspection Report, the items of which correspond to the items of sanitation in the *Grade "A" Pasteurized Milk Ordinance*. These forms may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Sanitary conditions are evaluated in terms of the requirements of the *Grade "A" Pasteurized Milk Ordinance*. Professional judgment alone must dictate whether an observed deficiency is representative of day-to-day sanitary conditions or is an anomaly. When significant violations of any given requirement are noted, the corresponding items or subitems on the individual dairy farm or milk plant inspection form are marked (X). Each subitem found in violation should be carefully marked, as this affects the computation of the sanitation compliance rating, as explained in Section 2, page 5. The number of pounds of milk and milk products sold daily is needed for computing the rating and is entered in the appropriate place at the top of each sheet. When a deficiency in a milk plant affects only one type of packaging (multiuse or single service), or the type of pasteurization used (HTST or vat), the quantity of all products so packaged or so pasteurized, rather than the entire plant output, is recorded for use in the computation described in Section 2B, page 7. Only items 16p and 18p are to receive partial debits. All other types of violations should be considered as affecting the entire product output of the milk plant.

D. Recording of Laboratory and Other Test Data

Records on file by the milk control authority are used in determining compliance with bacterial, coliform, antibiotic, phos-

phatase, and temperature requirements. The acceptance of data from official or officially designated laboratories is contingent upon the utilization of standard procedures by the laboratories concerned. Accordingly, it is necessary for the milk sanitation rating officer to determine from the official State laboratory certifying agency that both sampling and laboratory procedures have been approved in accordance with the methods of *Evaluation of Milk Laboratories—Recommended by the United States Public Health Service.*

Compliance with requirements for bacterial counts, coliform counts, antibiotics, and cooling temperatures is based on whether, at the time of the survey, a dairy farm's supply or a plant's products, as the case may be, meet the requirements of the *Grade "A" Pasteurized Milk Ordinance.* No credit is given for compliance when less than the required number of samples has been examined during the preceding 6 months. For the survey purposes, the preceding 6 months is considered to be the elapsed period of the month in which the survey is made and the 6 months immediately preceding. Dairy farms or milk plants which have had a permit for less than 6 months at the time of the survey, and for which the milk control authority has not yet examined the required number of samples, shall not be recorded as being in violation, provided the last individual result is within the Grade A limits. This principle is also applicable when a dairy farm, receiving or transfer stations, or milk plant ships milk into a community only during certain periods. In such cases, no debit is entered for insufficient samples if samples have been collected at normal rates during periods when milk is being received.

The milk sanitation rating officer may utilize milk control agency records in determining compliance with those items of sanitation which require laboratory tests to complete the evaluation. Official records of field tests may also be used in lieu of performing such tests during the survey, if the milk sanitation rating officer has satisfied himself as to the competency of the local sanitarian(s) to perform these tests as described in appendixes G and I of the *Grade "A" Pasteurized Milk Ordinance.*

Section 2. Computation of Sanitation Compliance Ratings

Survey results are transferred to the computation form, PHS 842, Report of Milk Sanitation Rating Survey, shown in appendix A, figures 1 through 4, which may be obtained from the several

regional offices of the Public Health Service, U.S. Department of Health, Education, and Welfare. The form is sufficiently flexible to permit various combinations of pages to be used for reporting surveys of both large and small communities and of individual milk supplies, as described in Part II of this publication.

A. Rating of Raw Milk for Pasteurization

The identity of each dairy farm included in the survey and the total pounds of milk sold daily expressed to the nearest 100 pound units (e.g., 3,760 pounds per day calls for an entry of 38) are entered in the first and second columns, respectively, on page 3 of the form headed "Status of Raw Milk for Pasteurization" (fig. 3). Violations of items or subitems are indicated by a cross (X) in the appropriate following columns. The sum of the weights of all items and subitems found violated at each dairy farm is entered in the column headed "Total Debits." This figure is then multiplied by the number in the second column (number of pounds sold daily nearest 100 pound units) and the result entered in the column headed "Pounds Sold Daily (100 Pound Units) × Total Debits." When all entries have been made, the figures entered in this column are totaled as are the number of pounds sold daily by all the dairy farms surveyed. The sanitation compliance rating is derived from the following formula:

$$\text{Rating} = 100 - \frac{\text{Total pounds sold daily (100 pounds units)} \times \text{total debits}}{\text{Total pounds sold daily (100 pound units)}}$$

This rating figure is entered in the appropriate space on the upper right hand corner of the page. It is also entered in the "Summary of Survey Results" on page 1 of the report form (fig. 1) opposite "Sanitation Compliance Rating of Raw Milk for Pasteurization," unless imported supplies are to be combined with the local rating in accordance with the procedure in Part I, Section 2D1, page 10. In such cases, the combined rating thus determined is entered in this space.

Provision is also made on the form for computing the percentage of dairy farms violating individual items of sanitation. The number of dairy farms violating each item may be totaled and the percentage computed by dividing this number by the total number of dairy farms surveyed and then multiplying by 100. The percentage of producer items violating may also be determined by using the Table for Computing Percent Violations (appendix D, fig. 10).

B. Rating of Milk Plants

For milk plants, the name of the plant and the total pounds of milk and milk products sold daily (expressed to the nearest unit of 100 pound units; e.g., 86,340 pounds per day calls for an entry of 862) are entered in the first and second columns, respectively, on page 5 of the form headed "Status of Milk Plants" (fig. 4). If the plant's daily output varies, the daily average (based on actual operating days) for the week preceding the survey is used. Violations of items or subitems are indicated by a cross (X) in the appropriate columns. When a deficiency in a milk plant affects one type of packaging or the type of pasteurization used, the number of pounds of all products so packaged or pasteurized are debited. In such cases, entries are made on separate lines below the name of the plant concerned. The name or names of the product(s) affected by the violation(s) is entered in the first column together with a parenthetic entry of the total volume in 100 pound units of product(s) involved. Care must be taken not to enter this quantity in the second column where it would again be included in the total pounds sold daily (see entry (1), fig. 4).

For receiving or transfer stations under the routine supervision of the milk control authority being surveyed, the name of the station is entered in the first column, together with a parenthetic entry of the quantity of milk shipped daily (expressed in pounds, as for milk plants) by the station to plants included in the survey. No entry is made in the second column (see entry (2), fig. 4). If the pounds shipped daily by a station to a milk plant varies, the recorded quantity is the daily average (based on actual operating days) of the shipments for the week preceding the survey. Violations of items or subitems are indicated by a cross (X) in the appropriate following columns. To facilitate the survey computations, a receiving or transfer station's entries follow the entries for the milk plant(s) it supplies. If the rating of the receiving or transfer station is equal to, or higher than, that of the milk plant it supplies, or equal to 90 percent or higher, the milk plant rating is considered as being inclusive of the receiving or transfer station violations, and no entry is made in the "Total Debits" for the station(s). However, if the station rating is less than 90 percent and lower than the plant, it is subtracted from the rating of the milk plant(s) which it supplies and the difference is entered in the "Total Debits" column. This difference is then multiplied by the quantity of milk shipped daily by the station to the milk plant and entered in the column headed

"Pounds Sold Daily (100 pound units) × Total Debits" (see entry (2), fig. 4).

The computation procedure for milk plants is similar to that for dairy farms, except that a modified procedure is necessary in computing debits for violations involving only one type of packaging or the type of pasteurization used, and for violations involving receiving or transfer stations (where the latter need be taken into account as explained in the preceding paragraph). For such violations, the entry in the "Total Debits" column is multiplied by the actual number of pounds of product involved as entered parenthetically in column 1 rather than by the entire plant output from column 2, and this figure is entered in the column "Pounds Sold Daily (100 pound units) × Total Debits." The formula for determining the sanitation compliance rating for the milk plants is as follows:

$$\text{Rating} = 100 - \frac{\text{Total pounds sold daily (100 pounds units)} \times \text{total debits}}{\text{Total pounds sold daily (100 pound units)}}$$

This rating figure is entered in the appropriate space on the upper right hand corner of the page. It is also entered in the "Summary of Survey Results" on page 1 of the report form (fig. 1) opposite "Sanitation Compliance Rating of Milk Plants," unless imported supplies need to be combined with the local rating in accordance with the procedure described in Part I, Section 2D2, page 11. In such cases, the combined rating is entered in this space.

Provision is also made on the form for computing the percentage of plants violating individual items or subitems. The same procedure as described for dairy farms or in the Table for Computing Percent Violations (fig.10) is followed except that the milk plant and all receiving or transfer stations shipping to such plant, are treated as a unit. Accordingly, multiple violations of the same item or subitem by a plant, or one or more receiving or transfer stations shipping milk to that plant, are charged as a single violation (see entry (2), fig. 4). This procedure should be followed irrespective of whether receiving or transfer station debits are charged against the plant to which they ship milk, as previously discussed.

C. Rating of Pasteurized Milk And Milk Products

The sanitation compliance rating of pasteurized milk and milk products is the arithmetic average of the sanitation compliance ratings of raw milk for pasteurization and of the milk plants.

When the raw milk for pasteurization ratings and or the milk plant ratings are required to be combined with ratings of imported supplies, in accordance with the procedures described in Part I, Section 2D, page 9, the combined ratings rather than the local ratings are used in the computation of the pasteurized milk and milk products rating. This figure is entered in the "Summary of Survey Results" on page 1 of the report form (fig. 1), opposite Sanitation Compliance Ratings of Pasteurized Milk and Milk Products.

D. Procedure To Be Followed When Milk and Milk Products Are Received From Beyond the Limits of Routine Inspection of The Milk Control Authority Being Surveyed

The basic provisions covering the acceptance of milk and milk products from points beyond the limits of routine inspection of the milk control authority being surveyed are contained in Section II of the *Grade "A" Pasteurized Milk Ordinance*. This section provides that (subject to laboratory tests upon arrival) the milk control authority should accept, without his actual physical inspection, supplies of milk and milk products from an area or an individual shipper not under his routine inspection when (1) upon arrival, each shipment of raw milk for pasteurization complies with the bacteriological, chemical, and temperature standards of Section 7 of the *Grade "A" Pasteurized Milk Ordinance;* (2) after receipt pasteurized milk and milk products comply with the bacteriological, chemical, and temperature requirements of Section 7, as determined in accordance with Section 6 of the *Grade "A" Pasteurized Milk Ordinance;* (3) the milk or milk products are produced and processed under regulations substantially equivalent to those of the *Grade "A" Pasteurized Milk Ordinance;* (4) the supplies are under routine official supervision; (5) the supplies have been awarded, by a State milk sanitation rating officer certified by the U.S. Public Health Service, a milk sanitation compliance and enforcement rating equal to that of the local supply or equal to 90 percent or higher; and (6) all such ratings are made on the basis of the procedures outlined in this publication, *Methods of Making Sanitation Ratings of Milksheds—1966 Edition*. Milk and milk products being received in accordance with these provisions are not included in the computation of local sanitation compliance ratings, provided the current rating of the imported supply is not more than 2 years old (if the milk plant or dairy farm ratings are made at different dates, the earliest date governs in applying

the 2-year rule). The name, rating, and date of rating, for each current source of milk being received at the time of the survey, are entered as a matter of record on page 5 of the form headed "Status of Milk Plants," as should a parenthetic entry of the quantity of product involved (see entry (3), fig. 4).[2]

If a supply of either raw milk for pasteurization or pasteurized milk and milk products, complying with the provisions enumerated above, is in violation of bacterial or cooling requirements upon arrival, appropriate debits are made against the rating of the receiving or transfer station or milk plant shipping the milk, and the adjusted rating is combined with the local plant rating by the procedure described in D2 of this Section (see entry (4), fig. 4). For survey purposes, when supplies are imported credit is given when 3-out-of-5 or, when 3-out-of-5 are not available, the last individual result (if less than five samples have been taken), of samples examined during the preceding 6 months is within Grade "A" limits (see Section 1D, page 4).

When the milk sanitation rating of the milk or milk products being received is lower than the last rating awarded the local supply and does not equal at least 90 percent, it is necessary to consider the status of such supplies in the computation of the local compliance ratings. If ratings less than two years old are available, they are combined with the ratings of the local supply in accordance with the procedures outlined below. When ratings less than 2 years old are not available, it will be necessary to obtain current ratings on the imported supplies before the local sanitation compliance ratings can be computed.

1. Procedure for combining raw milk for pasteurization ratings.—The raw milk for pasteurization compliance ratings of shipped-in supplies, regardless of whether the milk is imported as raw milk or as pasteurized milk and milk products, and the rating of the locally supervised raw milk for pasteurization are weighted by decimals representing, respectively, the shipped-in and the remaining quantities of milk which together make up the amount of pasteurized products sold daily. For example, if 100,000 pounds of pasteurized milk and milk products are sold daily in a community, of which 20,000 pounds are shipped in as raw milk for pasteurization, and 10,000 pounds as pasteurized milk, the weights used are 0.7 for the local supply and 0.2 and 0.1, respectively, for the shipped-in supplies. The computation

[2] In accordance with recommendations of the Association of State and Territorial Health Officers and the National Conference on Interstate Milk Shipments, the Public Health Service issues quarterly for the use of milk control authorities in milk importing areas a list of Interstate Milk Shippers and their sanitation compliance and enforcement ratings as reported by certified State milk sanitation rating officers.

of the combined rating for local and shipped-in supplies is recorded on page 3 of the form "Status of Raw Milk for Pasteurization" (fig. 3). The identity of each shipped-in supply included in the computation is shown and the date of current rating is recorded in the "Remarks" column.

Raw milk for pasteurization ratings used in the foregoing weighting computations may be either (1) the over-all raw milk for pasteurization rating of the shipping community, provided such rating is 90 percent or more on the basis of an official survey, or (2) the raw milk for pasteurization rating of the producers supplying the specific receiving or transfer station(s) from which the raw milk is shipped to the receiving community. However, in instances where both types of information are available, the most recent rating is used. If both types of ratings are derived from surveys made at approximately the same time, then the rating of the receiving or transfer station supply is used, since it provides more specific information. The type of rating for each shipped-in supply is also noted in the "Remarks" column.

2. Procedures for combining milk plant and receiving or transfer station ratings.—The names of milk plants shipping pasteurized milk or milk products for sale within the community and the quantity (in 100 pound units) of such products sold daily are entered in the first and second columns, respectively, on page 5 of the form headed "Status of Milk Plants" (fig. 4). The sanitation compliance rating of the milk plant shipping the milk and milk products is subtracted from 100 and the difference is entered in the "Total Debits" column. This difference is then multiplied by the quantity sold in the community being rated and entered in the column headed "Pounds Sold Daily (100 pound units) × Total Debits" (see entry (5), fig. 4).

The names of receiving or transfer stations shipping into the community from beyond the limits of routine inspection are also entered in the first column below the name of the plant(s) which they supply, but the quantity of milk supplied daily is entered parenthetically in the same manner as for locally supervised receiving stations. As will be noted in entry (6), figure 4, the poundage is not recorded in the second column, since this quantity is already accounted for in the local milk plant figures. If the rating of the receiving and or transfer station(s) is equal to, or higher than, that of the local milk plant it supplies, the local plant rating is considered as being inclusive of the station viola-

tions; therefore, no entry is made in the "Total Debits" column (see entry (6), fig. 4). However, if the receiving and/or transfer station(s) rating is lower, it is subtracted from the rating of the local milk plant which it supplies and the difference is entered in the "Total Debits" column. This difference is then multiplied by the number of pounds shipped daily by the receiving and/or transfer station(s) to the milk plant and entered in the column headed "Pounds Sold Daily (100 pound units) × Total Debits" (see entry (7), fig. 4).

If, upon receipt, an imported supply of raw milk for pasteurization violates bacterial, antibiotic, or cooling requirements, or if an inadequate number of samples have been examined by the milk control authority, the bacterial count, antibiotic, or cooling items, as the case may be, are debited against the rating of the receiving and/or transfer station shipping the milk before combining the ratings in accordance with the methods described above. In cases where an imported supply of pasteurized milk or milk products violates bacterial or cooling requirements upon arrival, or an inadequate number of samples have been examined by the local milk control authority, the bacterial count, coliform count, and/or cooling items, as the case may be, are debited and the shipping plants rating adjusted before making the total debit entry.

Section 3. Computation of Enforcement Rating

The "Report of Enforcement Methods" on page 2 of the form (fig. 2) provides a means of measuring the degree to which enforcement provisions of the *Grade "A" Pasteurized Milk Ordinance* are being applied. It serves to delineate specific areas where a milk sanitation program needs strengthening. The rating method provides for separate appraisals of these provisions as they are applied to dairy farms and milk plants. The community enforcement rating is derived by combining these appraisals with an appraisal of other milk sanitation control practices for which the control authority is responsible.

Items to be used in deriving the enforcement rating are listed in separate appraisal schedules, Parts I–III of the form. Sections of the *Grade "A" Pasteurized Milk Ordinance* and appendixes pertinent to each item are referenced in the second column of each schedule. Appraisal of items is based on the milk sanitation rating officer's observations during the survey and his review of the local milk control authority's records for the lesser of the following periods: (1) the period since the last

survey, or (2) the 2 years preceding the date of the current survey.

When an item requires separate action on the part of the milk control authority with respect to each dairy farm or milk plant in the milkshed, compliance is based on the proportion of dairy farms or plants which are included in the survey, as the case may be, for which local records show the item to have been satisfied. If the item requires more than one test or determination, then compliance is also based on the proportion of tests or determinations which, according to local records, were made at the required frequency. For example: If in a sanitation rating survey five milk plants are inspected, and records indicate all necessary milk plant tests to have been completed at required frequency in three plants, but only half of the tests to have been completed in two plants, the compliance would be $\frac{3+\frac{1}{2}+\frac{1}{2}}{5}$ or 80 percent. A similar procedure is used to appraise compliance with items 5 and 6 of Part III which pertain to the sale, service, and refrigeration of milk and milk products in retail outlets. For these, compliance is based on the percentage of food establishments in which satisfactory procedures are followed. This estimate may be based on local records or by observation in several restaurants, grocery stores, etc., during the course of the survey. Items to be evaluated in accordance with this procedure have the fourth, fifth, and sixth columns of the schedule left blank.

When an item requires an action by the control authority which affects the entire control program quantitative estimates of compliance by the procedure described above are not applicable. These items have the fourth, fifth, and sixth columns of the schedule blocked out, and the full weight of the item is debited or credited, depending upon whether the local milk sanitation program is satisfying the pertinent provisions of the *Grade "A" Pasteurized Milk Ordinance*. In appraising these items the milk sanitation rating officer should base his judgment on the attainment of objectives toward which the milk ordinance provisions are directed and not on occasional circumstances or insignificant deviations in procedure. Compliance with the requirements of Section 8, Animal Health, is based on whether at the time of the survey there is on file with the local milk control authority, or filed as directed by him for each dairy farm included in the survey, certificates or other official records indicating satisfactory compliance with the requirements.

The procedure for computing the community enforcement rating is shown on the form. As will be noted, the percent complying computed for each item in the schedule is multiplied by the weight of the item and entered in the column headed "Credit." The credit columns in Part I and Part II are then totaled to provide separate appraisals of the application of enforcement methods to dairy farms and milk plants, respectively. Combination, by the procedure shown on the form, of these credit totals with the credits awarded items in Part III provides the community enforcement rating. This figure is entered in the space provided on the upper right hand corner of page 2 and in the "Summary of Survey Results" on page 1 of the form.

Section 4. Preparation of Rating Officer's Report

Ratings made by the methods described herein measure the degree to which the milk supply and enforcement practices of a community conform to the standards and procedures contained in the *Grade "A" Pasteurized Milk Ordinance*. Space is provided on page 1 of the report form (fig. 1) for presenting a summary of survey results and recommendations of the milk sanitation rating officer.

A. Summary of Survey Results

Sanitation compliance ratings computed in accordance with procedures previously described and other data pertinent to the milk supply are entered in the "Summary of Survey Results." When a raw milk for pasteurization rating or a milk plant rating has been combined with ratings of imported supplies in accordance with the conditions and procedures of Section 2D, page 9, the combined rating rather than the rating of the local supply is entered in the summary.

B. Supplementary Narrative Report

In the course of conducting a survey and computing ratings, additional facts may become apparent which, if presented, would be of value to the control authority in orienting the local milk sanitation program along lines of greater effectiveness. Milk sanitation rating officers are urged to prepare a supplementary narrative report of their survey findings. This report should include:

1. A statement as to the general status of the milk sanitation program, including strength as well as weaknesses.

2. Discussion of needs for specific program emphasis as indicated by the compliance levels of sanitation items and enforcement practices, or by the variation in compliance levels of individual milk plants and dairy farms.

3. A statement as to the adequacy of existing milk sanitation regulations.

4. An appraisal of the adequacy of funds, personnel, and facilities to carry out the inspection, administration, and laboratory phases of the program.

5. Recommendations to the milk control authority of specific measures for program improvement, including the training of local personnel, if needed.

C. Recommendations of Milk Sanitation Rating Officer

A summary of the narrative report including the specific measures recommended for program inprovement is entered on page 1 of the report form under the heading "Recommendations of Milk Sanitation Rating Officer." The full report should be discussed in detail with appropriate officials of the community which has been rated. Such discussions contribute to better understanding of the problems involved and provide local milk control authorities with an opportunity to discuss means of implementing the milk sanitation rating officer's recommendations.

Section 5. Publication of Ratings

A milk sanitation compliance and enforcement rating of 90 percent or more, determined by the methods described, means that the pasteurized milk and milk products sold in a community are as safe as reasonably strict enforcement of milk sanitation regulations will make them. Consumers of such grade A pasteurized milk and milk products may, for all practical purposes, ignore the danger from milkborne disease as much as is possible and may therefore use such products with confidence. Milk control authorities of communities receiving such ratings are urged to inform the public of the sanitary status of the local milk supply, and State milk control authorities are urged to release through appropriate channels periodic lists of communities whose milk supplies receive ratings of 90 percent or more.

PART II. THE PUBLIC HEALTH SERVICE RATING METHOD FOR INDIVIDUAL MILK SUPPLIES

Milk sanitation ratings are used by many State and local milk control authorities as a basis for the acceptance of milk from beyond the limits of their routine inspection as well as by increasing numbers of Federal, State, and local milk procurement agencies and institutions. Within a given State, the use by the State milk control authority of the Public Health Service rating method for community milk supplies, described in Part I of this publication, will provide satisfactory information to permit acceptance of high quality milk supplies moving from one local milk control jurisdiction to another.

Because large volumes of milk and milk products are shipped interstate, the Public Health Service cooperates with the States in the conduct of a voluntary program for the certification of interstate milk shippers. As a part of this program, the milk sanitation ratings submitted by the States, on an individual shipper basis as hereinafter discussed, are published quarterly by the Service under the title "Sanitation Compliance and Enforcement Ratings of Interstate Milk Shippers."[3]

Rules governing inclusion of shippers and their ratings are based on agreements adopted by the National Conference on Interstate Milk Shipments, and appear in a covering memorandum which accompanies each issue of the list.

Certain modifications are necessary, however, in the procedures discussed in Part I, to adjust from a community basis to an individual shipper basis. These are discussed as follows under separate sections for Individual Shippers of Raw Milk for Pasteurization, Individual Shippers of Pasteurized Milk and Milk Products, and Individual Shippers of Dry Milk Products.

Section I. Individual Shippers of Raw Milk for Pasteurization

Individual raw milk shippers may include (1) individual dairy farms (bulk tank pickup), and (2) individual receiving or transfer stations or milk plants.

[3] Available from the Environmental Sanitation Program, National Center for Urban and Industrial Health, Public Health Service, U.S. Department of Health, Education, and Welfare, Cincinnati, Ohio.

A. Computation of Compliance Ratings

1. Individual dairy farms.—Individual ratings—applicable procedures given in Sections 1 and 2, Part I, should be followed, as applied to the total number of dairy farms supplying the individual milk supply being rated. The dairy producer rating is determined as indicated in figure 7.

2. Individual receiving or transfer stations or milk plants.—The rating of the specific receiving station, transfer station, or milk plant, as the case may be, should be based on the applicable procedure outlined in Part I (see fig. 8). In the case of milk plants, only the receiving station or the transfer station requirements should be considered, depending upon the method of operation. In instances where the milk is delivered by bulk milk tank pickup system, and no intermediate station or plant is involved, there will, of course, be no rating for receiving stations, transfer stations, or milk plants under this heading.

B. Computation of Enforcement Ratings

The method of computing the enforcement rating is the same as discussed in Part I, Section 3, of this publication. However, in deriving an enforcement rating for an individual shipper some items of Part II and Part III of the "Report of Enforcement Methods" (Appendix B. fig. 6) are not applicable. Accordingly, for individual milk shipper rating purposes the following procedures for computing an enforcement rating for raw milk for pasteurization should be followed:

1. When an individual shipper offers for sale only raw milk for pasteurization directly from the dairy farms (no stations or plants involved) all items in Part I, Dairy Farms, should be evaluated. The total credit column will be *the enforcement rating.*

2. When an individual shipper offers for sale raw milk for pasteurization which is shipped from a receiving station, a transfer station, or a milk plant; all items in Part I (Dairy Farms), all items in Part II Milk Plants), except items 5, 8, and 9, and in Part III (Community or Individual Shipper Rating), all items, except 4, 5, and 6, shall be evaluated.

The total weight possible which can be earned in Part II is 70. Thus the sum of the total credits earned in Part II should be divided by 70 and multiplied by 100. Example: Assuming that addition of all credits (omitting items 5, 8, and 9) under Milk

Plants, Part II, equal 65, then $65/70=0.928$ and $0.928\times100=92.8$ percent which becomes the total credit for Part II (see fig. 6).

The total weight possible which can be earned in Part III (omitting items 4, 5, and 6) is 90. Thus, the sum of the total credits earned in Part III should be divided by 90 and multiplied by 100 (see fig. 6). The resultant figure will be *the enforcement rating.* (If the shipper offers for sale both raw (for pasteurization) and pasteurized products, see Section 2B, following.)

Section 2. Individual Shippers of Pasteurized Milk and Milk Products

A. Computation of Compliance Ratings

1. Dairy farms.—The rating of the raw milk for pasteurization supply of individual milk plants shipping pasteurized milk and milk products may be determined on an individual basis, subject to the limitations and procedures outlined in Part II, Section 1A, preceding.

2. Milk plant.—The rating for individual milk plants shipping pasteurized milk and milk products should be determined in accordance with the applicable procedures in Part I, Section 1 and 2. When plants receive all raw milk for pasteurization from supplies beyond the limits of the milk control jurisdiction, the ratings for the shipped-in milk must be computed. If all raw milk for pasteurization is from a single source, the raw milk compliance rating of that source is used. If the raw milk for pasteurization is from two or more sources, the ratings should be prorated. (See fig. 9).

The *pasteurized milk rating* is the simple arithmetic average of the dairy farm compliance and the milk plant compliance rating.

B. Computation of Enforcement Ratings

As was the case in Part II, Section 1B, it is necessary to modify certain items of Part II and III of the "Report of Enforcement Methods" in computing an enforcement rating for an individual shipper of pasteurized milk and milk products. This should be done as follows: All items in Parts I and II should be evaluated, together with all items of Part III, except items 4, 5, and 6. The total weight possible which can be earned in Part III is 90. Thus, the sum of the total credits earned in Part III should be divided by 90 and multiplied by 100 (see

Section 1B, Part II, page 17, and fig. 6). The resultant figure will be *the enforcement rating.*

The procedure outlined in the preceding paragraph should also be followed when an individual shipper offers for shipment both raw milk for pasteurization and pasteurized milk and milk products.

When an individual shipper of pasteurized milk and milk products imports *all* raw milk for pasteurization from outside the milk control jurisdiction in which the milk plant is located, items 9, 10, and 11 of Part I should be evaluated and the total credit earned should be divided by the total credit possible (35) then multiplied by 100. The resultant figure would be the total credit for Part I. The procedure outlined under this subsection (2B) should then be followed for computing Parts II and III. The resultant figure thus determined will be *the enforcement rating.*

Section 3. Individual Shippers of Dry Milk Products

The requirements for grade A dry milk products are contained in the *Grade A Dry Milk Products—A Recommended Sanitation Ordinance and Code for Dry Milk Products Used in Grade A Pasteurized Milk Products." (Supplement 1 to the Milk Ordinance and Code).*—Grade A dry milk products as defined in this publication should be rated on an individual basis rather than a community basis. The procedure should be as follows:

A. Computation of Compliance Ratings

1. Dairy farms.—The raw milk for pasteurization rating of an individual milk drying plant is determined on an individual rating basis, subject to the limitations and procedures outlined in Part II, Section 1A, preceding.

2. Milk drying plants.—The rating of the condensing and/or milk drying plant should be determined in a manner similar to that described in Part I, Section 2B, page 7, for milk plants, but using page 7 of the form headed "Status of Milk Drying Plants." Violations of any items or subitems should be debited against the entire output of the plant.

B. Computation of Enforcement Ratings

It is necessary to modify the methods outlined in Part I, Section 3, in arriving at an enforcement rating for an individual

shipper of condensed or dry milk products. This should be done as follows: All items in Part I and II should be evaluated, together with all items of Part III, except items 4, 5, and 6.

The total weight possible which can be earned in Part III is 90. Thus, the sum of the total credits earned in Part III should be divided by 90 and multiplied by 100. (See Section 1B, Part II, page 17.) The resultant figure will be *the enforcement rating.* When an individual shipper of dry milk and dry milk products imports *all* raw milk from limits beyond the milk control jurisdiction in which the plant is located, items 9, 10, and 11 of Part I should be evaluated and the total credit earned should be divided by the total credit possible (35) then multiplied by 100. The resultant figure would be the total credit for Part I. The procedure outlined in Section 2B, page 18, should then be followed for computing Part II and III. The resultant figure thus determined will be *the enforcement rating.*

Section 4. Publication of Interstate Milk Shipper Reports

As previously mentioned, lists of "Sanitation Compliance and Enforcement Ratings of Interstate Milk Shippers" are published quarterly by the Public Health Service as a part of its activities in connection with the cooperative State-Public Health Service program for certification of interstate milk shippers.

State reports on Form PHS 1659 of interstate milk shippers proposed for listing or relisting should be submitted in triplicate to the appropriate regional office of the Public Health Service. The quarterly lists are dated January 1, April 1, July 1, and October 1 of each year, and the publication deadline for inclusion of reports in the next succeeding list would be not later than the first of the month preceding the date of the list. Rating of shipper's supplies are not published unless the written permission of the shipper concerned has been obtained by the State milk sanitation rating agency. One copy of this written permission should accompany each interstate milk shipper report submitted to the Public Health Service. Supporting laboratory certification reports, as called for in the interstate milk shipper procedures, are also necessary for inclusion and retention of shippers in the list.

APPENDIX A

Examples for Computing a Community Rating

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REV. 5-66

DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE

REPORT OF MILK SANITATION RATING SURVEY

OF ANYTOWN (Community) [redacted] (State) AS OF JULY 25-29, 1966 (Date)

Population	Health Officer	Milk Sanitarian	Ordinance in Effect: Grade A Pasteurized Milk Ordinance
43,600	Dr. C. L. Jones	William Green	Edition 1965 Date Adopted August 1, 1965

Surveyed by: Name	Title	Agency	Date Certified by USPHS	Survey based on	Approved laboratory
A. L. Scott	State Milk Sanitarian	State Health Department	September 1, 1965	1965 Edition of USPHS Pasteurized Milk Ordinance	August 12, 1965

SUMMARY OF SURVEY RESULTS

Number of producer dairy farms.	16	Sanitation compliance rating of raw milk for pasteurization.	89.8%
Number of producer dairy farms inspected.	16	Sanitation compliance rating of milk plants.	91.8%
Number of milk plants.	3	Sanitation compliance rating of pasteurized milk and milk products.*	90.8%
Number of milk plants inspected.	3	Enforcement Rating** Community	83.4%
Total pounds of pasteurized milk and milk products sold daily in community.	1154	Producer dairies	
		Milk plants	

RECOMMENDATIONS OF MILK SANITATION RATING OFFICER

The compliance rating for both the raw milk for pasteurization and the milk plants, as well as the enforcement rating, are below those reported in the last survey. These ratings and the deficiencies noted in the enforcement rating as well as observations made during the survey, indicate that more effort should be expended in certain aspects in the routine supervision of the milk sanitation program. A detailed discussion of program areas needing further improvement is presented in a supplementary narrative report which includes the following specific recommendations:

(1) Particular emphasis should be directed toward the following items of sanitation which were violated by 25 percent or more of the producer dairy farms: 2(b), 2(e), 3, 5 (wall and ceilings), and 10.

(2) Particular attention should be directed toward those items found violated in the milk plants, with special emphasis given to those items pertaining to the pasteurization process and equipment.

(3) The milk sanitarian should receive further training in the technique of testing HTST pasteurization units, the control of CIP installations, and the proper design and installation of farm water supplies, septic tanks and field absorption systems.

*Sanitation compliance rating of pasteurized milk and milk products is the simple average of the sanitation compliance ratings of raw milk for pasteurization and of the milk plants.
**See applicable sections of Methods of Making Sanitation Ratings of Milksheds - 1966 Revision.

Figure 1, Report of Milk Sanitation Rating Survey

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REV. 5-66

REPORT OF ENFORCEMENT METHODS

Community or Individual Shipper: ANYTOWN, U.S.A.

Enforcement Rating: 83.4

Date of Survey: July 25-29, 1966

PRODUCER DAIRIES PART I

No	Ord. Sec.	Item	Number Inspected	Number Complying	Percent Complying	Weight	Credit
1	3	All producers, milk haulers, & transfer station operators hold valid permits.	16	16	100	5	5
2	5	All producer dairy farms, etc. inspected at least once every three months.	16	14	87.5	15	13.1
3	5	Inspection sheets posted or available.	16	14	87.5	5	4.4
4	7	Requirements interpreted in accordance with USPHS Milk Ordinance as indicated by past inspections.	16	12	75.0	10	7.5
5	8	T.B. & Brucellosis certification on file as required.				10	10
6	7	Water samples tested and reports on file as required.	16	15	93.8	5	4.7
7	5	Milking time inspection program established.					0
8	6	At least four samples collected from each producer's supply every six months and necessary laboratory examinations made.	16	16	100	10	10
9	6, App. B	Laboratory procedures approved by PHS evaluation methods.				10	10
10	3.5 6.16	Permit issuance, suspension, revocation reinstatement, hearings, and or court actions taken as required.	16	15	93.8	15	14.0
11		Records systematically maintained and current.	16	13	81.3	10	8.1
		TOTAL CREDIT, Part I					85.8

REMARKS

Item 4. Water well supplies and septic tank absorption fields improperly installed.

Item 7. Records indicate that milking time inspections are not being made.

Individual Shipper of Raw Milk for Pasteurization
Without receiving stations or plants
Evaluate all items Part I and record.
With receiving stations or plants:
Evaluate all items Part I.
Evaluate all items Part II, except items 5,8, & 9. Divide by 70.
Evaluate all items Part III, except items 4, 5, & 6. Divide by 90.

MILK PLANTS PART II

No	Ord Sec	Item	Number Inspected	Number Complying	Percent Complying	Weight	Credit
1	3	All milk plant, receiving station operators & distributors hold valid permits.	3	3	100	5	5
2	5	All milk plants, etc. inspected at least once every three months.	3	3	100	15	15
3	5	Inspection sheets posted or available.	3	3	100	5	5
4	7	Requirements interpreted in accordance with USPHS Milk Ordinance as indicated by past inspections.	3	3	100	10	10
5	7, App. I	Pasteurization equipment tested at required frequency.	3	1	33.3	10	3.3
6	7	Individual and cooling water samples tested and reports on file as required.	3	3	100	5	5
7	7, App. G	Bacteriological & Sanitization tests made as required.	3	1	33.3	5	1.7
8	6	Samples of each plant's milk and milk products collected at required frequency, and necessary laboratory examinations made.	3	3	100	10	10
9	6, App. B	Laboratory procedures approved by PHS evaluation methods.				10	10
10	3.5 6.16	Permit issuance, suspension, revocation reinstatement, hearings, and or court actions taken as required.	3	3	100	15	15
11		Records systematically maintained and current.	3	2	66.6	10	6.7
		TOTAL CREDIT, Part II					86.7

REMARKS

Item 5. Records indicate that pasteurization equipment not tested at one plant.

Item 7. No record available of swab tests on containers.

Item 11. Records for one plant not current.

Individual Shipper of Pasteurized Milk & Milk Products
Evaluate all items Part I.
Evaluate all items Part II.
Evaluate all items Part III, except items 4, 5, & 6. Divide by 90.

COMMUNITY OR INDIVIDUAL SHIPPER RATING PART III

No	Ord Sec	Item	Number Inspected	Number Complying	Percent Complying	Weight	Credit
1		Enter total credit from Part I under percent complying.			86.8	40	34.7
2		Enter total credit from Part II under percent complying.			86.7	40	34.7
3	4	All milk and milk products properly labeled.	3	3	100	4	4
4	2,9	Sale of milk and milk products restricted to pasteurized milk and milk products.				4	4
5	10	Milk and fluid milk products served or sold in retail outlets in original containers or from approved dispenser, except as permitted.	40	40	100	2	2
6	10	Milk and milk products maintained at 45°F. or less in retail establishments.	40	40	100	4	4
7	11	Provisions of Section II followed when milk and milk products are imported.				6	0
		COMMUNITY OR INDIVIDUAL SHIPPER ENFORCEMENT RATING					83.4

REMARKS

Items 5 & 6. Health department records indicate these items to be in compliance.

Item 7. Milk being imported into Anytown has ratings less than the local supply at time of importation and was below 90.0%.

Last Rating of Anytown

Sanitation compliance rating of raw milk for pasteurization - 91.5%

Sanitation compliance rating of milk plants - 93.4%

Date of rating August 26-30, 1964, Enforcement rating - 86.7%

Individual Shipper of Dry Milk Products
Evaluate all items Part I.
Evaluate all items Part II.
Evaluate all items Part III, except items 4, 5, & 6. Divide by 90.

Figure 2, Report of Enforcement Methods

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REV. 5-58

STATUS OF RAW MILK FOR PASTEURIZATION

Community or Interstate Shipper: ANYTOWN, U.S.A.
Date of Survey: July 25-29, 1966

(NOTE - If any item or part of an item is violated mark code by "X" under that item.)

Sanitation Compliance Rating* 89.8 %

NAME OF PRODUCER DAIRY	POUNDS SOLD DAILY (100-LB. UNITS)	ITEMS OF SANITATION: MILKING BARN CONSTRUCTION: ABNORMAL MILK	FLOORS	WALLS AND CEILINGS	SEPARATE MILK ROOM	LIGHTING	FEED STORAGE	VENTILATION	CLEANLINESS	COWYARD	MILKHOUSE CONSTRUCTION AND FACILITIES: FLOORS	WALLS AND CEILINGS	LIGHTING AND VENTILATION	MISCELLANEOUS REQUIREMENTS	CLEANING FACILITIES	CLEANLINESS	TOILET	WATER SUPPLY	UTENSILS AND EQUIPMENT: CONSTRUCTION	CLEANING	SANITIZATION	STORAGE	HANDLING	MILKING: FLANKS, UDDERS AND TEATS	SURCINGLES, MILK STOOLS	TRANSFER AND PROTECTION OF MILK	PERSONNEL: HANDWASHING FACILITIES	PERSONNEL CLEANLINESS	COOLING	VEHICLES	INSECTS AND RODENTS: Fly breeding materials eliminated	Outside openings effectively screened	Self-closing doors	Screened windows	Approved insecticides used properly	Approved rodenticides used properly	Surroundings neat and clean	BACTERIAL COUNT	TOTAL DEBITS**	POUNDS SOLD DAILY (100-LB. UNITS) X TOTAL DEBITS	REMARKS
ITEM		1	a	b	c	d	e	f	g	4				5			6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	a.1	c.2	e.3	g.4	f.5	g.6				
WEIGHT		15	2	1	1	1	1	2	2	2	1	1	2	2	3	3	1	5	5	3	5	5	2	2	3	1	2	3	2	5	1	3	2	2	1	1	10			
1 Gordon, J. E.	38			X		X													X																			7	266	
2 Jones & Harris	10		X	X															X																			8	80	
3 Smith, Robert	6							X		X	X														X													9	54	
4 Osgood, T.	25												X								X																	5	125	dry house not clean
5 Hall, A. B.	4																				X	X												X			X	22	88	
6 Grant, D. L.	30			X					X			X									X	X				X												15	450	
7 Hill, Joe	16								X									X									X		X									11	176	milking time inspection
8 Evans, Harry	11				X			X			X	X				X							X															10	110	
9 Black, Al	5								X	X					X																				X			7	35	
10 Day, A. T.	18												X							X												X						9	144	
11 Allen, Robert	15		X						X				X						X																			11	165	
12 Wade, Jim	20																						X															6	120	
13 Jones, O. S.	6						X				X		X								X	X	X											X	X			16	96	
14 Reed, William	10						X		X															X	X													8	80	
15 Price, Dick	12										X					X											X	X										9	108	milking time inspection
16 Hawkes, H. T.	5			X			X	X			X															X									X			7	35	
17																																								
18																																								
19																																								
20									Excel Dairy Prod. Inc.																																	Ind. records for past rating 85.0%
21																																								
22									Snow Dairy Rec. Station																																	Ind. records for past rating 82.0%
23																																								
24									Remaining Pasteurized Milk Volume																																	
25																																								
TOTALS	231	0	2	4	1	2	4	1	6	2	2	5	2	1	1	2	1	3	1	4	3	3	1	2	2	2	1	1	0	0	1	3	1	1	1		2,132		
PERCENT OF PRODUCERS VIOLATING		0	13	25	6	13	25	6	38	13	13	31	13	6	6	13	6	19	6	25	19	19	6	13	13	13	6	6	0	0	6	19	6	6	6				

Rating = 1,132 / 1,154 = 85.0 x .1326 = 9.65

Rating = 97 / 1,154 = 82.0 x .0407 = 3.35

Rating = 977 / 1,154 = 90.8 x 0662 / 1.0000 = 15.9

89.8% Combined Rating

100 - 2,132 / 231 = 90.8%

* Sanitation compliance rating = 100 − (Total pounds sold daily (100s Units) X Total debits / Total pounds sold daily (100's units))

** Total debits for each producer dairy is the sum of the weights of the items violated.

Figure 3, Status of Raw Milk for Pasteurization

PHS-662 PAGE 1
REV. 1-66

STATUS OF MILK PLANTS
INCLUDING RECEIVING STATIONS

Community: ANYTOWN, U.S.A.
Date of Survey: July 25-29, 1966

(NOTE - If any item or part of an item is violated indicate by (X) under that item.)

Sanitation Compliance Rating* 91.2 %

NAME OF PLANT	POUNDS SOLD DAILY (100 = UNITS)	ITEMS OF SANITATION: FLOORS	WALLS AND CEILINGS	DOORS AND WINDOWS	LIGHTING	VENTILATION	SEPARATE ROOMS	TOILET, SEWAGE DISPOSAL FACILITIES	WATER SUPPLY	HAND WASHING FACILITIES	MILK PLANT CLEANLINESS	SANITARY PIPING	CONTAINERS AND EQUIPMENT: Construction and repair	Cleaning	Sanitization	Storage of cleaned	UTENSILS AND SERVICE ARTICLES (EQUIPMENT FOR CONTAINERS)	Handling and storage	PASTEURIZATION: Indicating and recording thermometers	Time and temperature control	Adequacy	Batch vessels, repair	Batch recording charts	COOLING	BOTTLING & CAPPING: Bottling and filling	Capping	PERSONNEL, CLEANLINESS	VEHICLES	SURROUNDINGS	BACTERIAL COUNT	COLIFORM COUNT	TOTAL DEBIT**	POUNDS SOLD DAILY (100 = UNITS) TIMES TOTAL DEBITS	REMARKS
ITEM		1	2	3	4a	4b	5	6	7	8	9	10	11	12 a&b	12 c&d	12	14	15	16 a&b (1)	16 a&b (2)	16c&d	16e	16d	17	18	19	20	21	22					
WEIGHT		1	1	2	1	1	3	3	4	2	2	3	3	5	5	3	2	3	4	10	3	5	4	5	3	3	1	1	2	10	5			
Sanitary Dairy Co. Buttermilk (5) Cream (12) = (17)	863	X		X								X																				6 10	5,178 170	No Air Space Thermometer - Not past.
																				X												5,348	100 - 5,348 / 863 = 6.2 = 93.8%
Entry (2) Sanitary Rec.Sta. (200)				X								X												X				X			58	1,060	Rec. Sta. Score below 90% - Inadequate time & temp. score (30.0 - 26.0 = 4.0 debits)
Entry (3) Baker Rec.Sta. (480) Edgeville																															–		Rec.Sta.Score above 90% - (not computed.) Ind. rating, SNB, 5/3/66 Rec. Station - 91.0% Bacteria-for-past. - 91.4%
Chestnut Hill Dairy	42					X		X									X							X							10	420	
Entry (4) Fox Rec.Sta. (42) Centerville																														X		10	420	Ind. rating, SNB, 6/15/66 Rec. Station - 90.0% Adjusted Rating - 80.0% Bacteria-for-past. - 80.0% (90.0 - 80.0 = 10.0)
Entry (5) Excel Dairy Prod.Inc. Anothertown	120																															12	1,560	Ind. rating, SNB, 7/5/66 Pest. Plant - 88.0% Bacteria-for-past. - 88.0% (100.0 - 88.0 = 12.0)
Grassland Farms Dairy	119											X	X							X						X						11	1,309	
Entry (6) Joe's Rec.Sta. (39) Barryville																																–		Rec. Sta. Score - Plant above - (not computed.) Ind. rating, SNB, 6/12/66 Rec. Station - 87.0% Bacteria-for-past. - 87.0%
Entry (7) Snow Dairy Rec.Sta.(47) Jamestown																																2	94	Ind. rating, SNB, 7/8/66 Rec. Station - 87.0% Bacteria-for-past. - 87.0% (89.0 - 87.0 = 2.0)
TOTALS	1,154	1	0	1	0	1	0	1	0	0	0	2	0	0	0	0	1	1	0	1	1	0	0	0	1	1	0	0	0	1	0		10,211	100 - 10,211 / 1,154 = 91.2%
PERCENT OF PLANTS VIOLATING		33	0	33	0	33	0	33	0	0	0	67	0	0	0	0	33	33	0	33	33	0	0	0	33	33	0	0	0	33	0			

*Sanitation compliance rating = 100 - (Total pounds sold daily (100 = units) x Total debits / Total pounds sold daily (100 = units))

**Total debits for each pasteurization plant is the sum of the weights of the items violated.

Figure 4, Status of Milk Plants

APPENDIX B

Examples for Computing an Individual Milk Shipper Rating

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PHS-662 (PAGE 1)
REV. 5-66

DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE

REPORT OF MILK SANITATION RATING SURVEY

OF Blank Receiving Station, Anothertown, U.S.A. **AS OF** September 12-13, 1966
(Name of Milk Shipper) (State) (Date)

Population	Health Officer	Milk Sanitarian	Ordinance in Effect	
9,000	Dr. B. K. Black	Henry Jones	Grade A Pasteurized Milk Ordinance Edition 1965	Date Adopted February 1966

Surveyed by (Name) (Title) (Agency)	Date Certified by USPHS	Survey based on	Approved laboratory
A. L. Scott — State Milk Sanitarian — State Health Department	September 8, 1964	1965 Edition of USPHS Pasteurized Milk Ordinance	August 19, 1965

SUMMARY OF SURVEY RESULTS

Number of producer dairy farms.	52	Sanitation compliance rating of raw milk for pasteurization.	91.1%
Number of producer dairy farms inspected.	25	Sanitation compliance rating of milk plants.	96.0%
Number of milk plants.	1	Sanitation compliance rating of pasteurized milk and milk products.*	N.A.
Number of milk plants inspected.	1	Enforcement Rating** Community	
Total pounds of grade A raw milk received, pasteurized, manufactured milk products sold daily, or commercially d	50,000	Producer dairies Milk plants	91.2%

RECOMMENDATIONS OF MILK SANITATION RATING OFFICER

The compliance rating for both the raw milk for pasteurization and the receiving station, as well as the enforcement, are below the ratings reported in the last survey. These ratings and the deficiencies noted in the enforcement ratings as well as observations made during the survey, indicate the need to expend more effort in certain aspects in the supervision of the milk sanitation program. A detailed discussion of program areas needing further improvement is presented in a supplementary narrative report which includes the following specific recommendations:

1. Particular attention should be directed toward the following items of sanitation which were violated by 25 percent or more of the producer dairies: 3, 6, & 15.
2. Attention should be directed toward those items found in violation in the receiving station and the transfer station, special emphasis should be given to item 10 - sanitary piping.
3. It is recommended the milk control agency implement, as soon as practicable, industry inspection of dairy farms. Industry sanitarians must be certified in accordance with the Ordinance requirements.
4. Permit suspension not taken as required.

*Sanitation compliance rating of pasteurized milk and milk products is the simple average of the sanitation compliance ratings of raw milk for pasteurization and of the milk plants.
**See applicable sections of Methods of Making Sanitation Ratings of Milksheds - 1966 Revision.

Figure 5, Report of Milk Sanitation Rating Survey

PHS-842 - PAGE 2
REV. 5-66

REPORT OF ENFORCEMENT METHODS

Community or Individual Shipper: Blank Receiving Station — Enforcement Rating: 91.7 %

Date of Survey: September 12-13, 1966

PRODUCER DAIRIES — PART I

No.	Ord. Sec.	Item	Number Inspected	Number Complying	Percent Complying	Weight	Credit
1	3	All producers, milk haulers, & transfer station operators hold valid permits.	25	25	100	5	5
2	5	All producer dairy farms, etc. inspected at least once every six months.	25	22	88	15	13.2
3	5	Inspection sheets posted or available.	25	21	84	5	4.2
4	7	Requirements interpreted in accordance with USPHS Milk Ordinance as indicated by past inspections.	25	18	72	10	7.2
5	8	T.B. & Brucellosis certification on file as required.				10	10
6	7	Water samples tested and reports on file as required.	25	23	92	5	4.6
7	5	Milking time inspection program established.				5	10
8	6	At least four samples collected from each producer's supply every six months and necessary laboratory examinations made.	25	25	100	10	10
9	6, Appx. C	Laboratory procedures approved by PHS evaluation methods.				10	10
10	3,5 6,16	Permit issuance, suspension, revocation reinstatement, hearings, and or court actions taken as required.	25	24	96	15	14.4
11		Records systematically maintained and current.	25	24	100	10	10
		TOTAL CREDIT, Part I					90.6

REMARKS

Item 2 - Some producer dairies not inspected at required frequency.

Item 3 - Inspection sheets not available on dairy farms.

Item 4 - Many requirements not interpreted properly.

Individual Shipper of Raw Milk for Pasteurization:
Without receiving stations or plants:
Evaluate all items Part I and record.
With receiving stations or plants:
Evaluate all items Part I.
Evaluate all items Part II, except items 5,8, & 9. Divide by 70.
Evaluate all items Part III, except items 4, 5, & 6. Divide by 90.

MILK PLANTS — PART II

No.	Ord. Sec.	Item	Number Inspected	Number Complying	Percent Complying	Weight	Credit
1	3	All milk plant, receiving station operators & distributors hold valid permits.	1	1	100	5	5
2	5	All milk plants, etc. inspected at least once every three months.	1	1	100	15	15
3	5	Inspection sheets posted or available.	1	1	100	5	5
4	7	Requirements interpreted in accordance with USPHS Milk Ordinance as indicated by past inspections.	1	1	100	10	10
5	7, Appx. I	Pasteurization equipment tested at required frequency.	NA	NA	NA	10	NA
6	7	Individual and cooling water samples tested and reports on file as required.	1	0	0	5	0
7	7, Appx. G	Bacteriological & Sanitization tests made as required.	1	1	100	5	5
8	6	Samples of each plant's milk and milk products collected at required frequency, and necessary laboratory examinations made.	NA	NA	NA	10	NA
9	6, Appx. G	Laboratory procedures approved by PHS evaluation methods.	NA	NA	NA	10	NA
10	3,5 6,16	Permit issuance, suspension, revocation reinstatement, hearings, and or court actions taken as required.	1	1	100	15	15
11		Records systematically maintained and current.	1	1	100	10	10
		TOTAL CREDIT, Part II					92.5

REMARKS

N.A. (Items Not Applicable) $\frac{92.5}{90} \times 100 = 92.8\%$

Item 6 - Lack proper records of water sample tests.

Individual Shipper of Pasteurized Milk & Milk Products
Evaluate all items Part I.
Evaluate all items Part II.
Evaluate all items Part III, except items 4, 5, & 6. Divide by 90.

COMMUNITY OR INDIVIDUAL SHIPPER RATING — PART III

No.	Ord. Sec.	Item	Number Inspected	Number Complying	Percent Complying	Weight	Credit
1		Enter total credit from Part I under percent complying.			88.6	40	35.4
2		Enter total credit from Part II and % percent complying.			92.8	40	37.1
3	4	All milk and milk products properly labeled.				4	4
4	2,9	Sale of milk and milk products restricted to pasteurized milk and milk products.				4	NA
5	10	Milk and fluid milk products, served or sold in retail outlets in original containers or from approved dispenser, except as permitted.				2	NA
6	10	Milk and milk products maintained at 45 F. or less in retail establishments.				4	NA
7	11	Provisions of Section II followed when milk and milk products are imported.				6	6
		COMMUNITY OR INDIVIDUAL SHIPPER ENFORCEMENT RATING					91.7

REMARKS

N.A. (Items Not Applicable) $\frac{82.5}{90} \times 100 = 91.7\%$

Last Rating of Blank Receiving Station

Sanitation compliance rating of raw milk for pasteurizing - 94.8%

Sanitation compliance rating receiving station - 96.0%

Date of rating - Enforcement rating - 92.3%

Individual Shipper of Dry Milk Products.
Evaluate all items Part I.
Evaluate all items Part II.
Evaluate all items Part III, except items 4, 5, & 6. Divide by 90.

Figure 6, Report of Enforcement Methods

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REV. 5-66

STATUS OF RAW MILK FOR PASTEURIZATION

Grade A Individual Shipper **Blank Receiving Station**
Date of Survey **September 12-13, 1966**

(NOTE - If any item or part of an item is violated indicate by 'X' under that item)

Sanitation Compliance Rating* **91.1**

NAME OF PRODUCER DAIRY	POUNDS SOLD DAILY (100 LBS. UNITS)	ITEMS OF SANITATION																																						REMARKS
		ABNORMAL MILK	MILKING BARN CONSTRUCTION: FLOORS	WALLS AND CEILINGS	SEPARATE STALLS	LIGHTING	FEED STORAGE	VENTILATION	CLEANLINESS	CONTAINERS	MILKHOUSE CONSTRUCTION AND FACILITIES: FLOORS	WALLS AND CEILINGS	LIGHTING AND VENTILATION	MISCELLANEOUS EQUIPMENTS	CLEANING FACILITIES	CLEANLINESS	TOILET	WATER SUPPLY	UTENSILS AND EQUIPMENT: CONSTRUCTION	CLEANING	SANITIZATION	STORAGE	HANDLING	MILKING: TEATS AND UDDERS	SURCINGLES, MILK STOOLS	TRANSFER AND PRE-COOLING LINES	PERSON NIL: HANDWASHING FACILITIES	PERSONNEL CLEANLINESS	COOLING	VEHICLES	INSECTS AND RODENTS: Fly breeding materials removed/screening parts maintained	Milkroom doors, windows, openings protected against flies	Effective fly control program used	Approved insecticides used properly	Outward signs rodent and insect	BACTERIAL COUNT	TOTAL DEBITS**	POUNDS SOLD DAILY (100 LBS. UNITS) X TOTAL DEBITS	
ITEM		1	a	b	c	d	e	f	3	4	5					6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	a, 1	c, d	e, f	g							
WEIGHT		15	2	1	1	1	1	2	2	2	1	1	2	2	2	3	5	5	3	5	5	2	2	3	1	2	3	2	5	1	3	2	2	1	10					
1 Harris, Ray	17		X													X		X																			10	170	
2 Jones, Henry	21								X							X			X						X									X				11	231	
3 Miller, W. T.	5								X											X	X	X																14	70	
4 Barclay, John	11				X													X					X					X										10	110	Drinking time inspection
5 Olsen, R. R.	15					X			X		X	X													X													6	90	
6 Taylor, Robt.	13									X			X											X	X													8	104	
7 Carhart, P. T.	18			X					X																											X		13	234	
8 Davis & Nelson	33								X	X		X																										8	264	
9 Ecker, Frank	10		X						X							X																		X				7	70	
10 Hart, Al	8							X																	X													5	40	
11 Myers, Don	12													X	X			X																				10	120	
12 Long, Wm.	27			X				X		X									X			X			X													10	270	
13 Loring, D. T.	16												X		X																							8	128	
14 Marshall, John	12									X							X							X														10	120	
15 Ripple, L. W.	23																			X	X																	10	230	
16 Williams, R. W.	19			X					X			X													X	X												9	171	Drinking time inspection
17 Wolfe, R. A.	11			X					X				X												X	X								X				8	88	Milking time inspection
18 Ronen, Henry	13																	X										X									8	104	
19 Smith & Jones	35								X		X					X						X			X													10	350	
20 Adams, Howard	13																				X	X																13	169	
21 Forrest, Bill	9		X	X						X													X															7	63	
22 Bower, Anne	12								X							X									X									X				8	96	
23 Houser, L. B.	17															X			X																			6	102	
24 Carson, Pete	14												X					X																		X		8	112	
25 Lamb, Alan	15			X												X			X																			4	60	
TOTALS	399	0	3	6	1	1	1	1	11	4	2	3	2	2	1	8	1	5	4	3	3	4	1	2	9	2	3	1	0	0	2	2	2	1	1		3,566	
PERCENT OF PRODUCERS VIOLATING		0	12	24	4	4	4	4	44	16	8	12	8	8	4	32	4	20	16	12	12	16	4	8	36	8	8	4	0	0	8	8	8	4	4			

* Sanitation compliance rating = $100 - \frac{\text{Total pounds sold daily (100 Units) X Total debits}}{\text{Total pounds sold daily (100 units)}}$

** Total debits for each producer dairy is the sum of the weights of the items violated.

$100 - \frac{3,566}{199} = 91.1\%$

Figure 7, Status of Raw Milk for Pasteurization

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REV. 5-66

STATUS OF MILK PLANTS
INCLUDING RECEIVING STATIONS

~~Summary of~~ Individual Milk Plant Blank Receiving Station
Date of Survey September 12-13, 1966

NOTE - If any item or part of an item is violated indicate by 'X' under that item.

Sanitation Compliance Rating* 96.9 %

NAME OF PLANT	POUNDS SOLD DAILY (100 - UNITS)	ITEMS OF SANITATION																											REMARKS
		FLOORS	WALLS AND CEILINGS	DOORS AND WINDOWS	LIGHTING	VENTILATION	SEPARATE TOILETS	TOILET, SEWAGE DISPOSAL FACILITIES	WATER SUPPLY	HAND WASHING FACILITIES	MILK PLANT CLEANLINESS	SANITARY PIPING	CONTAINERS AND EQUIPMENT: Construction and repair	CONTAINERS AND EQUIPMENT: Cleaning	CONTAINERS AND EQUIPMENT: Sanitization	CONTAINERS AND EQUIPMENT: Storage of cleaned	STORAGE OF SINGLE SERVICE ARTICLES	PROTECTION FROM CONTAMINATION	PASTEURIZATION: Holding and recorder (1)	PASTEURIZATION: Vat and timer (2)	PASTEURIZATION: Aditorium controls	PASTEURIZATION: Milk-to-milk regen.	PASTEURIZATION: Temp. recording charts	COOLING	BOTTLING & CAPPING: Bottling and handling	BOTTLING & CAPPING: Capping	PERSONNEL: CLEANLINESS	VEHICLES	SURROUNDINGS	BACTERIAL COUNT	COLIFORM COUNT	TOTAL DEBIT**	POUNDS SOLD DAILY (100 - UNITS) TIMES TOTAL DEBITS	
ITEM		1	2	3	4a	4b	5	6	7	8	9	10	11	12	12a	13	14	15	16 (1)	16 (2)	16b	16c	16d	17	18	19	20	21	22					
WEIGHT		1	1	2	1	1	3	3	4	2	2	3	3	5	5	3	2	3	4	10	3	5	4	5	3	3	1	1	2	10	5			
Blank Receiving Station	680					X						X																				4	2,720	
Alpha Trans. Sta. 250		X										X												X								9	- 0 -	Above 90% - Not computed
Delta Trans. Sta. 200		X	X	X	X							X															X		X			7	1,400	Below 90% Subtract Trans Sta. Score from Plant Score 96 - 89 = 7pts.
																																		7 x 200 = 1,400
																																	4,120	100 - 4,120/680 = 6.0 = 94%
TOTALS																																		
PERCENT OF PLANTS VIOLATING																																		

*Sanitation compliance rating = 100 - (Total pounds sold daily (100 - units) x Total debits / Total pounds sold daily (100 - units))

**Total debits for each pasteurization plant is the sum of the weights of the items violated.

Figure 8, Status of Milk Plants

APPENDIX C

Example for Computing an Individual Milk Pasteurization Plant (Fig. 9)

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(PHS-842 (PAGE 5)
Rev. 5-66)

STATUS OF MILK PLANTS
INCLUDING RECEIVING STATIONS

For Individual Milk Plant BLANK DAIRY CO.
Date of Survey September 12-13, 1966

NOTE - If any item or part of an item is violated indicate by (X) under that item.

Sanitation Compliance Rating* 93.6 %

NAME OF PLANT	POUNDS SOLD DAILY (100 UNITS)	ITEMS OF SANITATION																													REMARKS
		FLOORS	WALLS AND CEILINGS	DOORS AND WINDOWS	LIGHTING	VENTILATION	SEPARATE ROOMS	TOILET, SEWAGE DISPOSAL FACILITIES	WATER SUPPLY	HAND WASHING FACILITIES	MILK PLANT CLEANLINESS	SANITARY PIPING	CONTAINERS AND EQUIPMENT: Construction and repair	CONTAINERS AND EQUIPMENT: Cleaning	CONTAINERS AND EQUIPMENT: Sanitization	CONTAINERS AND EQUIPMENT: Storage of cleaned	STORAGE OF SINGLE SERVICE ARTICLES	PROTECTION FROM CONTAMINATION	PASTEURIZATION: Indicating and recording thermometers	PASTEURIZATION: Time and temperature control	PASTEURIZATION: Adulteration controls	PASTEURIZATION: Milk-to-milk regenerators	PASTEURIZATION: Temp. recording charts	COOLING	BOTTLING & CAPPING: Bottling and packaging	BOTTLING & CAPPING: Capping	PERSONNEL CLEANLINESS	VEHICLES	SURROUNDINGS	BACTERIAL COUNT	COLIFORM COUNT	TOTAL DEBIT**	POUNDS SOLD DAILY (100 = UNITS) X TOTAL DEBITS	
	ITEm	1	2	3	4a	4b	5	6	7	8	9	10	11	12 a&b	12 c&d	13	14	15	16 a&b (1)	16 a&b (2)	16b(3)	16c	16d	17	18	19	20	21	22					
	WEIGHT	1	1	2	1	1	3	3	4	2	2	3	3	5	5	3	2	3	4	10	3	5	4	5	3	3	1	1	2	10	5			
Blank Dairy Co.	1,000					X						X																			4	4,000	
Cream(22), Skim(50)= 72																							X								4	288	No charts - Vat. past.
All glass products = 200																									X						3	600	No shields - Glass fillers
																																4,888	
Alpha Rec. Sta. = 600		X										X																					100 - $\frac{4888}{1000}$ = 4.9 = 95.1%
Delta Trans. Sta. = 250		X	X	X	X							X												X			X		X		9	- 0 -	Above 90% - Not Computed
																											X		X			6.1	1,525	Below 90% Subtract Trans. Sta. score from Plant score (95.1 - 89.0 = 6.1)
																																6,413	
																																100 - $\frac{6413}{1000}$ = 6.4 = 93.6%	
TOTALS																																	
PERCENT OF PLANTS VIOLATING																																	

*Sanitation compliance rating = 100 - $\frac{\text{Total pounds sold daily (100 = units)} \times \text{Total debits}}{\text{Total pounds sold daily (100 = units)}}$

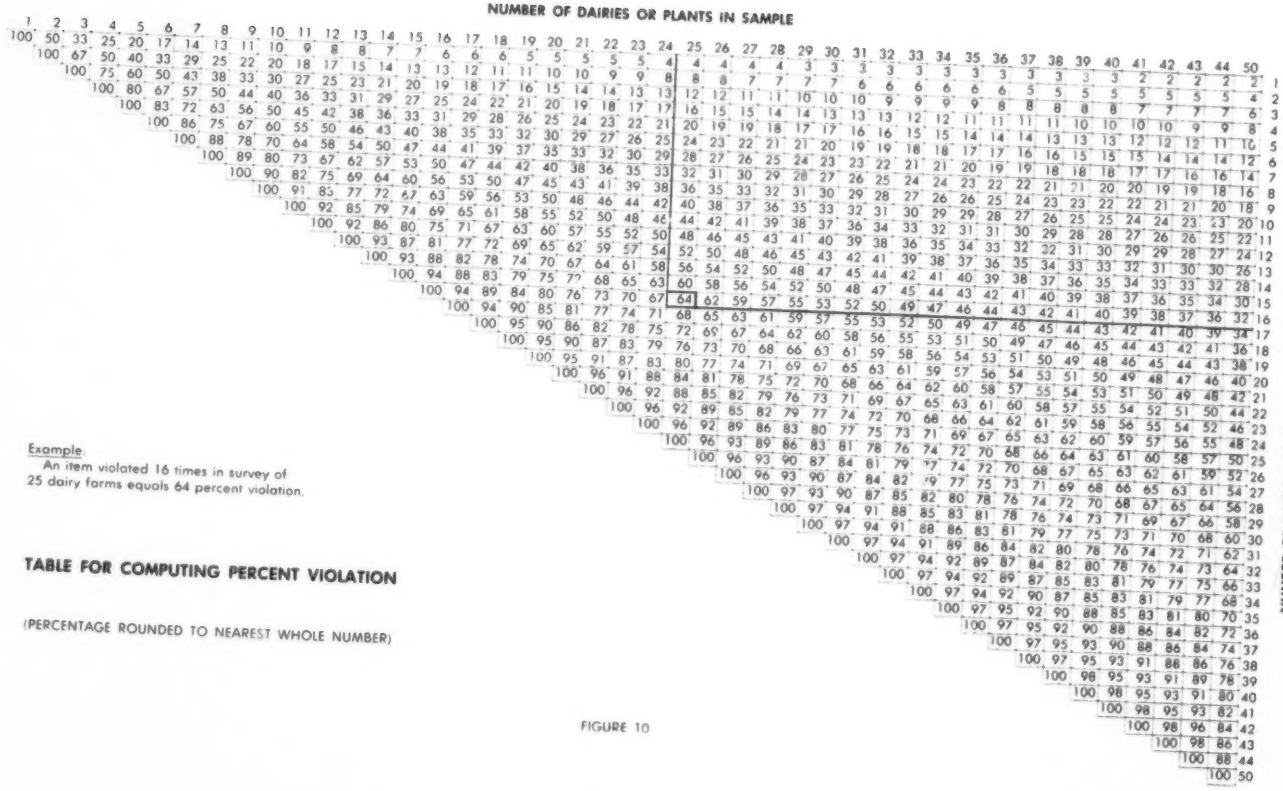
**Total debits for each pasteurization plant is the sum of the weights of the items violated.

FIGURE 9

APPENDIX D

Table for Computing Percent Violations (Fig. 10)

NUMBER OF DAIRIES OR PLANTS IN SAMPLE



NUMBER OF DAIRIES OR PLANTS VIOLATING AN ITEM

Example:
An item violated 16 times in survey of 25 dairy farms equals 64 percent violation.

TABLE FOR COMPUTING PERCENT VIOLATION

(PERCENTAGE ROUNDED TO NEAREST WHOLE NUMBER)

FIGURE 10

U.S. GOVERNMENT PRINTING OFFICE: 1967 O-244-186